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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|-------------------------------------|---------------------|------------------|
| 10/816,640 | 04/02/2004 | Takeshi Kitahara | 2102487-991340 | 9642 |
| 26379 | 7590 | 08/22/2006 | | EXAMINER |
| | | DLA PIPER RUDNICK GRAY CARY US, LLP | | TAT, BINH C |
| | | 2000 UNIVERSITY AVENUE | | |
| | | E. PALO ALTO, CA 94303-2248 | | ART UNIT |
| | | | | PAPER NUMBER |
| | | | 2825 | |

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-------------------------|------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/816,640 | KITAHARA ET AL. |
| | Examiner Binh C. Tat | Art Unit 2825 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 02 April 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-4, 6, 10-15, 17, 19 and 20 is/are rejected.
- 7) Claim(s) 5, 7-9, 16 and 18 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 02 April 2004 is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>04/02/04</u> . | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____. 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____. |
|--|--|

DETAILED ACTION

1. This office action is in response to application 10/816640 file on 04/02/04.

Claim 1-20 remain pending in the application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 6, 10-15, 17, 19, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Usami et al. (US Patent 6493856).

3. As to claim 1, 13, and 20 Usami et al. teach an automatic circuit design apparatus comprising: a setting module configured to set an upper limit electric potential of a virtual ground line in a circuit to be designed, by use of a cell library for low-threshold cells (see fig 4b), a cell library for high-threshold cells (see fig 4a), and information of the circuit to be designed (see fig 4a, 4b, fig 8, fig 9, fig 10 col 4 line 27-42 and col 5 line 1 to col 6 line 36); and a layout generator configured to generate a layout based on the information, the cell library for low-threshold cells, and the cell library for high-threshold cells (see fig 1, fig 2, fig 8, fig 9-10 col 1 line 38 to col 2 line 46 and col 6 line 40 to col 7 line 47).

4. As to claim 2, and 14, Usami et al. teach further comprising a cell library generator configured to generate the cell library for low-threshold cells by using the upper limit electric potential (see fig 1, fig 2, fig 9 col 6 line 39 to col 7 line 7 and background).

5. As to claim 3, and 17, Usami et al. teach wherein the cell library generator comprises: a delay time calculator configured to calculate delay times of the low-threshold cells (see fig 8, fig 9 col 4 line 65 to col 7 line 7); and a low-threshold cell library generator configured to generate the cell library for low-threshold cells based on the delay times (see fig 8, fig 9 col 4 line 65 to col 7 line 7).

6. As to claim 4, Usami et al. teach wherein the setting module comprises: a data acquisition module configured to acquire the information, the upper limit electric potential, and a timing constraint (see summary, fig 8, fig 9 col 4 line 65 to col 7 line 7); and an upper limit setting module configured to set an electric potential of a ground terminal in the low-threshold cell to the upper limit electric potential (see summary, fig 8, fig 9 col 4 line 65 to col 7 line 7).

7. As to claim 6, and 15, Usami et al. teach further comprising a logic synthesis module configured to provide a logic synthesis to the information, and to generate a net list (see fig 8-10 col col 6 line 40 to col 7 line 47).

8. As to claim 10, Usami et al. teach further comprising a circuit modification module configured to add some cells to a net list or remove some cells from the net list in accordance with a timing analysis(see fig 8-10 col col 6 line 40 to col 7 line 47).

9. As to claim 11, and 19, Usami et al. teach further comprising a timing analyzer configured to provide a timing analysis to the layout based on the cell library for low-threshold cells, the cell library for high-threshold cells, and a timing constraint (see summary, fig 8, fig 9 col 4 line 65 to col 7 line 7).

10. As to claim 12, Usami et al. teach further comprising a modification determination module configured to determine whether there is need to modify a part of the layout in

accordance with the timing analysis (see summary, fig 8, fig 9 col 4 line 65 to col 7 line 7 and background).

Allowable Subject Matter

Claim 5, 7-9, 16, and 18 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh C. Tat whose telephone number is 571 272-1908. The examiner can normally be reached on 7:30 - 4:00 (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571 272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Binh Tat
Art unit 2825
August 14, 2005

Thuando
THUAN DO
Primary Examiner
08/15/2006